NEUROSCIENCE

An International Journal under the editorial direction of IBRO

Volume 26, 1988

SUBJECT INDEX

PERGAMON PRESS OXFORD · NEW YORK
BEIJING · FRANKFURT · SÃO PAULO · SYDNEY · TOKYO · TORONTO

NEUROSCIENCE

Chief Editors

P. G. KOSTYUK: *Department of General Physiology, A. A. Bogomoletz Institute of Physiology, Academy of Sciences, Ukrainian SSR, 4 Bogomoletz Street, Kiev 24, 252601 GSP, U.S.S.R.*

R. LLINÁS: *Department of Physiology and Biophysics, New York University School of Medicine, 550 First Avenue, New York 10016, U.S.A.*

A. D. SMITH: *Department of Pharmacology, University of Oxford, South Parks Road, Oxford OX1 3QT, U.K.*

Editorial Board

R. G. BAKER (*New York*)
P. BANKS (*Sheffield*)
K. J. BERKLEY (*Tallahassee, FL*)
D. BIESOLD (*Leipzig*)
A. BJÖRKLUND (*Lund*)
J. P. BOLAM (*Oxford*)
P. BRODAL (*Oslo*)
A. G. BROWN (*Edinburgh*)
G. TEN BRUGGENCATE (*Munich*)
J. BUREŠ (*Prague*)
R. E. BURKE (*Bethesda, MD*)
G. BUZSAKI (*La Jolla, CA*)
A. L. BYSOV (*Moscow*)
I. W. CHUBB (*Wollongong*)
F. CLEMENTI (*Milan*)
B. COLLIER (*Montreal*)
M. COSTA (*Adelaide*)
A. C. CUELLO (*Montreal*)
W. J. DAVIS (*Santa Cruz*)
I. M. L. DONALDSON (*Edinburgh*)
D. EDGAR (*Munich*)
C. EDWARDS (*Bethesda, MD*)
D. S. FABER (*Buffalo, NY*)
D. M. FAMBROUGH (*Baltimore*)
V. V. FANARDJIAN (*Yerevan*)
G. GABELLA (*London*)
W. F. GANONG (*San Francisco*)
H. M. GERSCHENFELD (*Paris*)
A. M. GRAYBIEL (*Cambridge, MA*)
R. W. GUILLERY (*Oxford*)
G. HAEUSLER (*Darmstadt*)
J. HÁMORI (*Budapest*)
L. HEIMER (*Charlottesville*)
M. HERKENHAM (*Bethesda*)
D. E. HILLMAN (*New York*)
T. HÖKFELT (*Stockholm*)
E. HOLTZMAN (*New York*)
P. HOLZER (*Graz*)
O. HORNYKIEWICZ (*Vienna*)
J. HOUNSGAARD (*Copenhagen*)
S. P. HUNT (*Cambridge*)
M. ITO (*Tokyo*)
H. JAHNSEN (*Copenhagen*)
G. JAIM-ETCHEVERRY (*Buenos Aires*)
B. E. JONES (*Montreal*)
G. JU (*Xi'an, China*)
J. S. KELLY (*Edinburgh*)
B. I. KHODOROV (*Moscow*)
G. W. KREUTZBERG (*Munich*)
K. KRNJEVIĆ (*Montreal*)
H. G. J. M. KUYPERS (*Cambridge*)
L. LUBINSKA (*Warsaw*)
L. MAFFEI (*Pisa*)
C. A. MARSDEN (*Nottingham*)
M. R. MATTHEWS (*Oxford*)
P. B. C. MATTHEWS (*Oxford*)
A. I. MATUS (*Basel*)
R. E. MCCAMAN (*Duarte, CA*)
R. Y. MOORE (*New York*)
D. K. MOREST (*Farmington, CT*)
I. G. MORGAN (*Canberra*)
J. F. MORRIS (*Oxford*)
É. MUGNAINI (*Storrs*)
W. J. H. NAUTA (*Cambridge, MA*)
F. ORREGO (*Santiago, Chile*)
M. OTSUKA (*Tokyo*)
J. M. PALACIOS (*Basle*)
S. L. PALAY (*Boston*)
R. E. PASSINGHAM (*Oxford*)
V. H. PERRY (*Oxford*)
J. M. POLAK (*London*)
P. RAKIC (*New Haven*)
H. J. RALSTON (*San Francisco*)
T. S. REESE (*Woods Hole*)
F. REINOSO-SUÁREZ (*Madrid*)
M. RÉTHELYI (*Budapest*)
P. N. RUDOMIN (*Mexico City*)
M. L. SHELANSKI (*New York*)
S. M. SHERMAN (*Stony Brook, NY*)
M. L. SHIK (*Moscow*)
M. V. SOFRONIEW (*Cambridge*)
P. SOMOGYI (*Oxford*)
C. SOTELO (*Paris*)
K. STARKE (*Freiburg*)
M. S. STARR (*London*)
C. F. STEVENS (*New Haven*)
L. STJÄRNE (*Stockholm*)
C. STUMPF (*Vienna*)
K. SUZUKI (*Chapel Hill*)
R. F. THOMPSON (*Irvine, CA*)
D. A. VASILENKO (*Kiev*)
E. S. VIZI (*Budapest*)
J. VOOGD (*Leiden*)
L. VYKLICKY (*Prague*)
X. S. T. WAN (*Beijing, China*)
K. E. WEBSTER (*London*)
R. WERMAN (*Jerusalem*)
W. D. WILLIS (*Galveston*)
H. WINKLER (*Innsbruck*)
L. R. YOUNG (*Cambridge, MA*)
S. ZEKI (*London*)
H. ZIMMERMANN (*Frankfurt*)

IBRO Publications Committee

Chairman, A. D. SMITH; M. ITO, E. R. KANDEL, P. G. KOSTYUK, K. KRNJEVIĆ, R. LLINÁS, D. RICHTER.

Aims and Scope:

Neuroscience publishes papers describing the results of original research on any aspect of the scientific study of the nervous system. Since one of the chief aims of the journal is to promote communication between neuroscientists, the type of paper most suitable for publication is that in which new observations are clearly and succinctly reported and in which the purpose of the study is made meaningful to scientists of other disciplines. Any paper, however short, will be considered for publication provided that it reports significant, new and carefully confirmed findings with full experimental details. For *Instructions to Authors* see Vol. 25, No. 1, pp. i–iii.

Copyright © 1990 IBRO
For Copyright details see Back Cover

VOLUME 26 — SUBJECT INDEX

*Commentary.

Abbreviations: AChE, Acetylcholinesterase; ADA, adenosine deaminase; AP5, 2-amino-5-phosphonopentanoate; CCK, cholecystokinin; CGRP, calcitonin-gene related peptide; CNS, central nervous system; DA, dopamine; DRG, dorsal root ganglia; E, embryonic day; EAE, experimental allergic enkephalomyelitis; EEG, electroencephalogram; EM, electron microscopy; ENK, enkephalin; GABA, γ-aminobutyrate; GBR 12935, (1-[2-(diphenylmethoxy)ethyl]-4(3-phenylpropyl)-piperazine); cyclic GMP, guanosine 3',5'-cyclic monophosphate; HBSS, Hanks' balanced salt solution; HPLC, high performance liquid chromatography; HRP, horseradish peroxidase; HRP-WGA, horseradish peroxidase-wheat germ agglutinin; 5HT, 5-hydroxytryptamine; IR, immunoreactivity; -LI, -like immunoreactivity; MAb, monoclonal antibody; MAO, monoamine oxidase; MAPs, microtubule-associated proteins; NA, noradrenaline; NADPH, nicotinamide adenine dinucleotide phosphate (reduced form); NGF, nerve growth factor; NKA, neurokinin A; NMDA, *N*-methyl-D-aspartate; NPY, neuropeptide Y; NT, neurotensin; 6-OHDA, 6-hydroxydopamine; PCA, posterior cricoarytenoid; PCPA, p-chlorophenylalanine; PHA-L, *Phaseolus vulgaris*-leucoagglutinin; PHI, peptide histidine-isoleucine; PNMT, phenylethanolamine-*N*-methyltransferase; SCG, superior cervical ganglion; SCH 23982, (5R)-8-iodo-2,3,4,5-tetrahydro-3-methyl-5-phenyl-1H-3-benzazepine-7-ol; SP, substance P; TARI, tannic acid-Ringer incubation; TH, tyrosine hydroxylase; TMT, trimethyltin; VIP, vasoactive intestinal peptide.

Acute experimental allergic encephalomyelitis (EAE), intraspinal nerve terminals immunoreactive for TH, 5-HT and SP in EAE (guinea-pig) 26:253

Adenosine deaminase (ADA), relationship between ADA-containing axons and trigeminal mesencephalic neurons (rat) 26:669

Adrenal medulla, adrennal-mediated, naloxane-reversible increase in reaction time in the tail-flick test following intrathecal administration of SP at the lower thoracic spinal level (rat) 26:243

Adrenaline, adrenaline, neuropeptde Y and aging (rat) 26:461

Aging, and neurotransmitters in the hypothalamus (rat) 26:479
heterogeneities in the responses of the adrenaline-NPY cell groups to the aging process (rostral medulla oblongata, rat) 26:479
reduction of NPY- and PNMT- immunoreactive nerve terminal profiles in the parvocellular part of the paraventricular hypothalamic nucleus (rat) 26:479

β-Alanine, effects of strychnine on neurons in somatosensory cortex and its interaction with β-alanine (cat) 26:745

DL-Aminophosphonoheptanoate, specific blocker of NMDA receptors (rat hippocampal slices) 26:433

[^{3}H]D-2-Aminophosphonopentanoate ([^{3}H]D-AP5), binding assay (rat cerebral cortical membranes) 26:1
ligand for *N*-methyl-D-aspartate receptors in mammalian CNS 26:1; 26:17

regional distribution of binding sites (rat CNS) 26:1

Amylase,
exogenous CGRP evoked amylase release from the parotid gland (rat) 12:933

Antibodies,
against GABA and glutamate to stain sections through locust thoracic ganglia for microscopy (*Schistocerca gregaria*) 26:33

Astrocytes,
responses of primary astrocytes to hypoglycaemia (rat cerebral hemispheres, cultures) 26:283

Auriculotemporal nerve,
long-lasting electrical stimulation at a high frequency: reduction of CGRP content of parotid gland (rat) 26:933
SP-containing nerve fibres of the parotid gland: 90% derived from the auriculotemporal nerve (rat) 26:933

Autoradiography,
of D_1 dopamine receptors in basal ganglia (cat, primates) 26:101
of H_1-receptors in guinea-pig brain 26:553
quantitative, of D_1 dopamine receptors in the rat brain 26:83

Basal ganglia,
localization of D_1 dopamine receptors using the receptor ligand [^{3}H]SCH 23390 (cat, primate) 26:101

Benzodiazepine,
heterogeneous distribution of benzodiazepine receptor subtypes in the human hippocampal formation 26:783

Brain stem,
afferent and efferent connections of brain stem locomotor regions (decerebrate cat) 26:871
new locomotor regions, revealed by means of electrical stimulation (decerebrate cat) 26:863
receives signals from extraocular muscle proprioreceptors during passive eye-movement (cat) 26:131

Brattleboro rats,
neurohypophysial hormone binding sites in forebrain and pituitary gland in comparison with Long-Evans rats 26:273

Caesium,
inhibits hyperpolarization and conductance increase evoked by 5-HT in hippocampal CA1 neurons (rat, *in vitro*) 26:69

Calbindin,
a 28,000 mol. wt. vitamin D-dependent calcium-binding protein: expression in neurons of chick dorsal root ganglia 26:215
antibodies to calbindin 26:215
in primary sensory neurons (chick) 26:215
expression by sensory neurons requires interaction with skeletal muscle but not with spinal cord (chick embryo) 26:225

Calbindin-immunoreactive neurons,
epigenetic influence (chick) 26:225

Calcitonin gene-related peptide (CGRP),
CGRP (together with SP and VIP) may be involved in 'atropin-resistant' salivation occurring upon parasympathetic nerve stimulation (rat) 26:933
in rat salivary glands: neuronal localization, depletion upon nerve stimulation and salivation, and effects on salivation in relation to SP (rat) 26:933
in vagal and glossopharyngeal afferent neurons (rat) 26:539
in visceral afferent nerve fibres: quantification by radioimmuno-assay and determination of axonal transport rates (rat) 26:927
IR in intraocular grafts of lower part of fetal (E_{15}-E_{17}) cervical spinal cord 2-3 months after grafting (rat) 26:193
ontogeny in rat brain stem: immuno-histochemistry 26:905
the spinal afferent innervation is the major source of CGRP in rat stomach 26:927

Capsaicin,
contractile response of rat bladder to capsaicin was directly proportional to bladder

tachykinin-like immuno-reactivity while response to field stimulation was not (rat) 26:233

Carotid body,
biophysical studies of the cellular elements (rabbit) 26:291
electron microscopy of dissociated cells: type I: neuron-like; type II: resemble glial elements (rabbit) 26:291

Catecholamines,
comparison of secretion from adrenal medulla during continuous exposure to nicotine, muscarine or excess K^+ (rat) 26:313
sustained secretory response after stimulation with excess K^+ or muscarine is attributed to lack of inactivation of voltage-sensitive calcium channels and a constant supply of catecholamines (rat) 26:313

Celiac,
see also 'coeliac'

Celiac superior mesenteric ganglion,
distribution and origin of peptide-containing nerve fibres in the ganglion (guinea-pig) 26:1037

Cerebellar cortex,
electrophysiology of the mammalian cerebellar cortex in organ culture (rat) 26:493

Cerebellar organ cultures,
cytology and organization (rat) 26:509

Cerbellum,
cyclic GMP and cell death (rat cerebellar slices) 26:321

p-Chlorophenylalanine (PCPA),
PCPA-sensitive and insensitive 5-HT axons (rat brain) 26:971

Cholecystokinin (CCK),
in vagal and glossopharyngeal afferent neurons (rat) 26:539
IR in intraocular grafts of lower part of fetal (E_{15}-E_{17}) cervical spinal cord 2-3 months after grafting (rat) 26:193

Cholinergic neurons,
sparing of cholinergic neurons following quinolinic acid lesions of rat striatum 26:387
ultrastructural evidence for hippocampal target cell-mediated trophic effects on septal cholinergic neurons in reaggregating cell cultures (embryonic mouse brain) 26:417

Co-localization,
of SP and CGRP in nerve fibres innervating salivary glands (rat) 26:933
of SP with 5-HT in raphe projection neurons (rat) 26:959

Colchicine,
to facilitate immunohistochemical visualization of peptides in cell bodies within intraocular spinal cord grafts (rat) 26:193

Coeliac ganglia,
[Met]enkephalin, [Leu]enkephalin and [Met]enkephalin-arg-gly-leu contents (cat) 26:161

Colliculus superior,
uptake, release and modulation of release of NA (rabbit) 26:621

Conditioned circling,
and the mesotelencephalic DA system (rat) 26:395

Cysteamine,
seizure protecting effect of cysteamine points to pro-convulsive action of increased somatostatin in frontal cortex (rat) 26:379

Cystitis,
the contribution of capsaicin-sensitive sensory nerves to xylene-induced cystitis (rat) 26:709
xylene-induced, involves (at least in part) an irritation of capsaicin-sensitive sensory nerves in the bladder wall (rat) 26:709

Digestive tract,
[Met]enkephalin, [Leu]enkephalin and [Met]enkephalin-arg-gly-leu contents of lower oesophageal sphincter, fundus, antrum, pylorus, duodenum and ileum (cat) 26:161

Dopamine (DA),
action of DA in nucleus accumbens (rat) 26:403
D_1 dopamine receptor in the rat brain 26:83
distribution of D_1 dopamine receptors in basal ganglia (cat, Cynomolgus monkeys, human) 26:101

dopaminergic control of striatal NPY neurons (rat) 26:809
mesotelencephalic DA system and conditioned circling (rat) 26:395

Dorsal root ganglia (DRG),
calbindin: a specific and reliable cell marker of neurons A1 and B1 in the neuronal population of the chick DRG 26:215
ultrastructural characterization of calbindin in chick DRG 26:215

'Double bridge' peroxidase-anti-peroxidase method,
to demonstrate serotonergic projections in the rat brain 26:951

Egg laying,
and egg-laying behaviour is controlled by release of neuropeptides into (1) the haemolymph from neurohaemal axon terminals in the periphery of the cerebral commissure and (2) the intercellular space of the CNS from collaterals in the inner compartment of this commissure (snail, *Lymnaea stagnalis*) 26:327

Electroencephalogram (EEG),
EEG changes in the neocortex of the aged rat: some may be due to pathological changes in the cholinergic nucleus basalis 26:735
electrical activity in the neocortex of freely moving young and aged rats 26:735

Electron microscopy (EM),
of sections of locust thoracic ganglia after treatment with antibodies against GABA and glutamate (locust, *Schistocerca gregaria*) 26:33

EM immunocytochemistry,
for GABA and glutamate in the thoracic ganglion (locust, *Schistocerca gregaria*) 26:33

Electrophysiology,
electrophysiological analysis of commissural projections to entorhinal area (guinea-pig) 26:55
of cerebellar cortex in organ culture (rat) 26:493

Enkephalins (ENK),
ENK-like immunoreactivity in intraocular grafts of lower part of fetal (E_{15}-E_{17}) cervical spinal cord 2-3 months after grafting (rat) 26:193
in upper part of the digestive tract and coeliac ganglia: quantification and characterization (cat) 26:161

Entorhinal area,
dorsal hippocampal commissure projections to the entorhinal area: electrophysiological analysis (guinea-pig) 26:55

Epilepsy,
somatostatin, NPY and GABA in epilepsy (rat) 26:379

Epileptic seizures,
induced by kainic acid i.p. (rat) 26:379
induced in rats kindled for 4 weeks by daily injections of pentylenetetrazole 26:379

Excitatory amino acids,
different patterns of damage produced by kainate, *N*-methyl-D-aspartate and quisqualate (rat hippocampal slice preparation) 26:433
neurotoxicity in the hippocampal slice preparation (rat) 26:433
specific inhibitors (rat hippocampal slice preparation) 26:433

Excitotoxicity,
in hippocampal slices (rat) 26:433

Extraocular muscle,
afferent signals in cat brain stem 26:131

Eye-movement,
role of a proprioceptive signal from receptors in the extrinsic ocular muscles in control of eye-movement by the vestibulo-ocular system (cat) 26:131

Fast Blue,
retrograde tracing with Fast Blue combined with immunohistochemistry to determine the presence of 5-HT and SP around respiratory muscle neurons in the nucleus ambiguus (cat) 26:169

GABA,
GABAergic neurons in locust thoracic ganglia (*Schistocerca gregaria*) 26:33

heterogeneous distribution in the superior cervical ganglion (rat) 26:635

Gähwiler,
roller tube method (modification) to prepare cerebellar organotype cultures (rat) 26:493, 26:509

Gastrocnemius-soleus muscle,
afferent fibre projection (cat) 26:1023

[^{3}H]GBR 12935,
(1-[2-(diphenylmethoxy)ethyl]-4(3-phenylpropyl)-piperazine): selective ligand for the dopamine-transport complex 26:83

Glia,
glial staining in most brain areas have same intensity with MAO-A and MAO-B antibodies; no glial staining with TH antibodies (human brain stem) 26:791

Glial fibrillary acidic protein,
a probe for neurotoxicity (rat) 26:337

Glossopharyngeal afferent neurons,
immunohistochemical study of neuropeptides (rat) 26:539

Glutamate,
glutamatergic neurons in locust thoracic ganglia (*Schistocerca gregaria*) 26:33

Glutamate decarboxylase,
concomitant increase with somatostatin and NPY in frontal cortex of rats with decreased seizure threshold 26:379

Glycine,
effects of strychnine on neurons in somatosensory cortex and its interaction with glycine (cat) 26:745

cyclic GMP,
and cell death in cerebellar slices (rat) 26:321
may be part of a protective mechanism against oxygen free radicals 26:321

Golgi apparatus,
release of synaptophysin in a vesicular form after glycosylation (cultured embryonic mouse hypothalami) 26:847

Hanks' solution (HBSS),
Hanks' balanced salt solution for organotypic cultures (rat fetuses) 26:121

High performance liquid chromatography (HPLC),
reverse phase, for tachykinin-like immunoreactivity of rat bladder 26:233
to characterize [Met]enkephalin-arg-gly-leu in upper part of digestive tract and coeliac ganglia (cat) 26:161

Hippocampal target cells,
role in cholinergic neuronal development, axonal proliferation and synapse formation (embryonic mouse brain cell culture) 26:417

Hippocampus,
benzodiazepine receptors in human hippocampal formation 26:783
dorsal hippocampal commissure projections to the entorhinal area: electrophysiological analysis (guinea-pig) 26:55
excitatory amino acid neurotoxicity in the hippocampal slice preparation (rat) 26:433
hippocampal mossy fibres constitute a link in the circuit responsible for the spread of kainic acid seizures (rat) 26:763
inhibitory action of 5-HT in CA1 hippocampal neurons *in vitro* (rat) 26:69
ultrastructure of hippocampal target cell neurotrophic effects (embryonic mouse brain cell culture) 26:417

Histamine,
connections between the septum-diagonal band complex and histaminergic neurons (rat) 26:827

Histamine H_1-receptors,
distribution in the central nervous system (guinea-pig) 26:553

Horseradish peroxidase (HRP),
intranasal irrigation with HRP to label atypical AChE rich olfactory glomeruli (rat) 26:367
retrograde transport: to study the projections from the reticular thalamic nucleus and the ventral lateral geniculate nucleus to the posterior-pulvinar thalamic complex (cat) 26:449

Horseradish peroxidase-labelled wheat germ agglutinin (HRP-WGA),
to study afferents to the red nucleus (rat) 26:601

Huntington's disease,
survival of large cholinergic neurons in excitotoxin-lesioned rat striatum shares common features with the pattern of cell loss found in the caudate-putamen in Huntington's disease (rat) 26:387

5-Hydroxytryptamine (5-HT),
immunohistochemical localization of 5-HT- and SP-containing fibres around respiratory muscle motoneurons in the nucleus ambiguus (cat) 26:169
inhibitory action in CA1 hippocampal neurons *in vitro*: ionic mechanism (rat brain slices) 26:69
projections from several brain stem serotoninergic nuclei to the nucleus tractus solitarii: evidence from a double labelling study (rat) 26:951
quantitative morphometric analysis of two types of serotonin-immunoreactive nerve fibres differentially responding to PCPA treatment (rat brain) 26:971
SP in 5-HT projections from the medullary raphe that innervate the thoracic spinal cord 26:959

6-Hydroxydopamine (6-OHDA),
conditioned circling in rats: bilateral involvement of the mesotelencephalic DA system demonstrated following unilateral 6-OHDA lesions (rat) 26:395

Hypoglycaemia,
glucose deprivation depolarizes plasma membranes of cultured astrocytes and collapses transmembrane potassium and glutamate gradients (new-born rat cerebral hemispheres) 26:283

Ibotenate,
neurotoxicity in the hippocampal slice preparation (rat) 26:433

Ibotenic acid,
lesions of the rat striatum after low doses: selective cell sparing similar to that found in quinolinic acid lesions 26:387

Imipramine,
chronic treatment diminishes nuclear size of neurons in locus coeruleus and cingular cortex but not in hippocampus (rat) 26:803

Immunogold method,
to reveal by electron microscopy neuropilar processes labelled with GABA and glutamate antibodies (thoracic ganglia of *Schistocerca gregaria*) 26:33

Immunohistochemistry,
localization of 5-HT- and SP-containing fibres around respiratory muscle motoneurons in the nucleus ambiguus (cat) 26:169
of CGRP in the developing rat brain stem 26:905
to study distribution of 8 neuropeptides in intraocular spinal cord grafts (rat) 26:193

Inferior mesenteric ganglion,
non-cholinergic synaptic potentials mediated by lumbar colonic nerve in the guinea-pig inferior mesenteric ganglion *in vitro* 26:1073

[^{125}I]Iodobolpyramine,
selective histamine H_1-receptor antagonist, to study distribution of H_1-receptors in the central nervous system (guinea-pig) 26:553

Ion channels,
and second messenger systems 26:727*

Kainate,
neuronal damage; toxicity restricted to intrinsic neuronal somata, dendrites and spines while afferent axons, boutons and glia are spared (*in vitro* effects on rat hippocampus slices) 26:433

Kainic acid,
lesions of rat striatum after low doses: selective cell sparing similar to that found in quinolinic acid lesions 26:387
protective effects of mossy fiber lesions against kainic acid-induced seizures and neuronal degeneration (rat) 26:763

Locomotion,
  sites of treadmill locomotion in brain stem revealed by electrical stimualtion (decerebrate cat) 26:863

Locust thoracic ganglia,
  demonstration by light microscopy of inhibitory motoneurons labelled with GABA-antibodies and excitatory motoneurons labelled with glutamate antibodies (peroxidase-anti-peroxidase method) (*Schistocerca gregaria*) 26:33
  immunogold method to reveal labelled (with GABA or glutamate antibodies) neuropilar processes by electron microscopy (*Schistocerca gregaria*) 26:33

Lumbar colonic nerve,
  non-cholinergic synaptic potentials mediated by lumbar colonic nerve in the guinea-pig inferior mesenteric ganglion *in vitro* 26:1073

Lymnaea stagnalis,
  a fresh water snail: non-synaptic neuropeptide release 26:327

Magnetic field,
  morphodynamic reactive response of the pineal gland of rats chronically exposed to a stable strong magnetic field 26:1083

Medulla oblongata,
  distribution of NPY-like immunoreactive cells (human) 26:179

Membrane hyperpolarisation,
  induced by negative current injection counteracts morphine-induced burst generation (rat cortical neurons *in vivo* 26:45

Merkel cells,
  and mechanosensitivity of normal and regenerating nerves in frog skin (*Xenopus laevis*) 26:695
  in *Xenopus* skin: act as targets for growing nerves thereby ensuring the appropriate distribution of low threshold mechanosensitivity 26:695
  in *Xenopus* skin: not involved in mechanosensory transduction 26:695

Microtubule-associated proteins (MAPs),
  phylogenetic conservation of brain MAP2 and tau (frog: *Xenopus laevis*; quail: *Coturnix coturnix japonica* and rat) 26:893

Monoamine oxidase (MAO),
  immunocytochemical mapping of MAO-A, MAO-B and TH in human brain stem 26:791

Monoclonal antibodies (MAb),
  immunohistochemistry of adult rabbit olfactory structures 26:993
  immunohistochemistry of degenerative and renewal patterns in rabbit olfactory receptor neurons following unilateral olfactory bulbectomy 26:1013
  immunohistochemistry of rabbit olfactory receptor neurons during development 26:1003
  MAb 4G12 can visualize recapitulation of some embryonic properties of the nervous system on the renewal pattern of the olfactory receptor neurons in the adult mammal 26:1013
  MAb 4G12, specific to neurons, recognized an epitope different from the olfactory marker protein specific to the olfactory receptor neurons (rabbit) 26:993
  MAb to MAO-A and MAO-B: used to study distribution of these enzymes in human brain stem 26:791
  molecular distinction between the olfactory receptor neurons and vomeronasal system made by MAb 11G12 (rabbit) 26:1003

Morphine,
  action on spontaneous and stimulus-evoked postsynaptic potentials in cortical neurons (rat, *in vivo*) 26:45

Mossy fibers,
  protective effect of mossy fiber lesions against kainic acid-induced seizures and neuronal degeneration (rat) 26:763

Nerve growth factor (NGF),
  high affinity NGF receptors are exclusively associated with a neuron-like population (fetal rat basal forebrain) 26:121
  localization of high-affinity and low-affinity NGF receptors in cultured fetal rat basal forebrain 26:121

low-affinity NGF receptors
associated with both neuronal and non-neuronal cells in cultures of medial septum-basal forebrain (rat fetus) 26:121
NGF exerts its effects on cholinergic traits in the basal forebrain by interacting directly with high-affinity receptors on neuron-like cells (fetal rat cultured basal forbrain) 26:121

Neurohypophysial hormones,
binding sites in rat forebrain and pituitary gland: comparative study on the Long-Evans and Brattleboro strains 26:273
quantitative mapping of binding sites in rat forebrain and pituitary gland (Long-Evans strain) 26:261

Neurokinin A (NKA),
co-stored with SP in sensory nerves of rat urinary bladder 26:233
in vagal and glossopharyngeal afferent neurons (rat) 26:539

Neuronal morphogenesis,
evidence for fundamental functions during neuronal morphogenesis of MAP2 and tau in three phylogenetically divergent classes 26:893

Neurons in somatosensory cortex,
effects of strychnine (cat) 26:745

Neuropeptide Y (NPY),
concomitant increase of somatostatin, NPY and glutamate decarboxylase in the frontal cortex of rats with decreased seizure threshold 26:379
D_1 and D_2 receptor subtypes play opposite roles in the dopaminergic control of the striate NPY neuronal system (rat) 26:809
distribution of NPY-like immunoreactive neurons in the human medulla oblongata 26:179
dopaminergic influence on expression of NPY-like immunoreactivity by rat striatal neurons 26:809
monoamines are synthesized by many NPY-like immunoreactive cells in the human medualla oblongata 26:179
morphometrical and microdensitometrical studies on PNMT- and NPY-immunoreactive nerve terminals and on glucocorticoid receptor-immunoreactive nerve cell nuclei in the paraventricular hypothalamic nucleus in adult and old male rats 26:479
NPY immunoreactive terminals and cell bodies in intraocular grafts of lower part of fetal (E_{16}-E_{17}) cervical spinal cord 2-3 months after grafting (rat) 26:193

Neuropeptides,
distribution and origin of peptide-containing nerve fibres in the celiac superior mesenteric ganglion (guinea-pig) 26:1037
immunohistochemical study of neuropeptides in vagal and glossopharyngeal afferent neurons (rat) 26:539
nonsynaptic release by egg-laying controlling cerebral caudo-dorsal cells (*Lynaea stagnalis*) 26:327
nonsynaptic release sites in the CNS (*Lynaea stagnalis*) 26:327

Neurotensin (NT),
NT-containing projections from the retrosplenial cortex to the anterior ventral thalamic nucleus (rat) 26:819

Neurotoxicity,
amino acid neurotoxicity is not mediated by guanylate cyclase/cyclic GMP (rat cerebellar slices) 26:321

Neurotoxicity evaluations,
advantages and problems encountered in the use of cupric-silver degeneration stains, immunocytochemistry and immunoassay for neuronotypic and gliotypic proteins in assessing neurotoxic effects (TMT-injected rats) 26:337

Neurotrophic effects,
ultrastructural evidence for hippocampal target cell-mediated trophic effects on septal cholinergic neurons (reaggregating cell cultures from embryonic mouse brain) 26:417

Nicotinamide adenine dinucleotide phosphate (NADPH) diaphorese,
morphology and distribution of NADPH (reduced form) diaphorese reactive neurons in human brain stem 26:645

Nigrostriatal dopaminergic afferents,
regulate metabolism of NPY in striatal interneurons (rat) 26:809

N-Methyl-$_D$-aspartate (NMDA),
neurotoxicity in the hippocampal slice preparation (rat) 26:433
receptors: labelled with [^{3}H]$_D$-AP5 (mammalian CNS) 26:1,26:17

Nodose ganglion,
immunoreactive cells for SP and VIP are more numerous than those for NKA and somatostatin (rat) 26:539

Nonsynaptic neuropeptide release,
in the CNS involved in egg laying: elevation of extracellular [K^+] stimulates exocytotic activity in collaterals of neurohaemal axons in the presence of Ca^{2+} (*Lymnaea stagnalis*) 26:327

Nonsynaptic release of neuronal messengers,
in the caudodorsal cells of *Lymnaea stagnalis* (and propably in the CNS in general) has the same structural and ionic bases as release from classical synapses and from neurohaemal axon terminals 26:327

Noradrenaline (NA),
noradrenergic neurons with divergent projections to the motor trigeminal nucleus and the spinal cord: a double retrograde neuronal labelling study (rat) 26:681
uptake, release and modulation of release of NA in rabbit superior colliculus 26:621

Nucleus accumbens,
neuromodulatory action of DA in the nucleus accumbens: an *in vivo* intracellular study (rat) 26:403

Nucleus ambiguus,
5-HT- and SP-containing fibres around respiratory muscle motoneurons (cat) 26:169

Nucleus submedius,
fine structure of dorsal part (rat thalamus) 26:147

Nucleus tractus solitarii,
central serotonergic projections to this nucleus (rat) 26:951

Olfactory bulb,
immunohistochemical studies with monoclonal antibodies (rabbit) 26:993, 26:1013

Olfactory glomeruli,
atypical, rich in AChE: labelling by intranasal irrigation with HRP (rat) 26:367

Ontogeny,
of CGRP in rat brain stem 26:905

Opioids,
opioid release from adrenal medulla after intrathecal SP (rat) 26:243

Oxytocin,
localization of [^{3}H]oxytocin binding sites in forebrain and pituitary gland (Brattleboro rats) 26:273
localization of [^{3}H]oxytocin binding sites in forebrain and pituitary gland (Long Evans rats) 26:261, 26:273

Parotid gland,
CGRP i.v. does not evoke salivary flow; CGRP together with SP enhances effect of SP on salivary flow (rat) 26:933
sympathetic denervation raised CGRP content in the gland (rat) 26:933

Patch clamp technique,
to study second messenger-mediated cellular events 26:727*

Peptide expression,
in intraocular spinal cord grafts (rat) 26:193

Peptide histidine-isoleucine (PHI),
PHI-like immunoreactivity in intraocular grafts of lower part of fetal (E_{15}-E_{17}) cervical spinal cord 2-3 months after grafting (rat) 26:193

Phaseolus vulgaris-leucoagglutinin (PHA-L),
anteretrograde tracing with PHA-L combined with immunocytochemistry of histidine decarboxylase: to study connections between the septum-diagonal band complex and histaminergic neurons (rat) 26:827

Phenylethanolamine-*N*-methyltransferase (PNMT),
morphometrical and microdensitometrical studies on PNMT- and NPY-immunoreactive nerve terminals and on glucocorticoid receptor-immunoreactive nerve cell nuclei in the paraventricular hypothalamic nucleus in adult and old male rats 26:479
PNMT- and NPY-immunoreactive neurons in the rostral medulla oblongata of the adult and old male rat 26:461

Phrenic motoneurons,
see respiratory muscle motoneurons (cat) 26:169

Pineal gland,
morphodynamic reactive response of the pineal gland of rats chronically exposed to a stable strong magnetic field 26:1083

Posterior cricoarytenoid (PCA) muscle motoneurons,
see respiratory muscle motoneurons (cat) 26:169

Potassium conductance,
5-HT has a postsynaptic inhibitory action in CA1 hippocampal neurons by an activating potassium conductance (rat, *in vitro*) 26:69

Primary sensory neurons,
calbindin D-28K immunoreactive neurons in chick DRG: ontogenesis and cytological characteristics 26:215

Probes for neurotoxicity,
protein-O-carboxyl methyltransferase and glial fibrillary acidic protein (rat) 26:337

Protein-O-carboxyl methyltransferase,
a probe for neurotoxicity (rat) 26:337

Purkinje cells,
firing properties of immature cells different from those of adult animals (rat, cerebellar organotype cultures) 26:493

Quisqualate,
neurotoxicity in the hippocampal slice preparation (rat) 26:433

Quinolinic acid,
lesions of rat striatum: sparing of cholinergic neurons; the surviving large cells do not contain somatostatin and NPY nor the enzyme NADPH 26:387

Radioimmunoassay,
for somatostatin and NPY 26:379
for SP-LI and tachykinin-LI 26:233

Reaction time,
adrenal-mediated, naloxone-reversible increase in reaction time in the tail-flick test following intrathecal SP (rat) 26:243

Respiratory motor outflow,
role of SP and 5-HT (cat) 26:169

Respiratory muscle motoneurons,
in nucleus ambiguus: surrounded by 5-HT- and SP-containing fibres (cat) 26:169

Rhodamine-labelled microspheres,
non-selective tracers to study origins of corticorubral and cerebellorubral pathways (rat) 26:601

Rubral afferents,
afferents to the red nucleus studied by means of D-[^{3}H]aspartate, [^{3}H]choline and non-selective tracers (rat) 26:601

Salivary glands,
CGRP and SP: neuronal localization (rat) 26:933

[^{125}I]SCH 23982 ((5R)-8-iodo-2,3,4,5-tetrahydro-3-methyl-5-phenyl-1H-3-benzazepine-7-ol),
ligand for D_1 dopamine receptors: quantitative autoradiographic localization in rat brain 26:83
to label D_1 dopamine receptors in basal ganglia of the cat and primate brain 26:101

Second messenger,
second messenger-mediated cellular events studied with the patch clamp technique 26:727*

Septal cholinergic neurons,
ultrastructural evidence for hippocampal target cell-mediated trophic effects on septal cholinergic neurons in reaggregating cell cultures (embryonic mouse brain) 26:417

Septum-diagonal band complex,
and histamine neurons: connections in the posterior hypothalamus (rat) 26:827

Serotonin,
see 5-hydroxytryptamine (5-HT)

Somatosensory cortex,
interaction of strychnine with inhibitory amino acids (cat) 26:745

Somatostatin,
concomitant increase with NPY and glutamate decarboxylase in frontal cortex of rats with decreased seizure threshold 26:379
in vagal and glossopharyngeal afferent neurons (rat) 26:539
somatostatin immunoreactive terminals in intraocular grafts of lower part of fetal (E_{15}-E_{17}) spinal cord 2-3 months after grafting (rat) 26:193
radioimmunoassay 26:379

Splanchnic nerve,
thoracic: presence of enkephalin-, SP- and CGRP-immunoreactivity (guinea-pig) 26:1037

Stress,
immobilization stress increased peptidergic activity of light and of dark pinealocytes (rat) 26:1083

Striatal neurons,
pharmacological characterization of dopaminergic influence on expression of NPY-immunoreactivity by rat striatal neurons 26:809

Striatum,
sparing of cholinergic neurons following quinolinic acid lesions (rat) 26:387

Structure/activity relations,
of agonists and antagonists for the *N*-methyl-$_D$-aspartate receptor measured by the ability of a large range of substances to inhibit binding of [^{3}H]$_D$-AP5 (rat brain membranes) 26:17

Strychnine,
effects on neurons in somatosensory cortex and its interaction with the inhibitory amino acids (cat) 26:745

Substance P (SP),
adrenal-mediated, naloxone-reversible increase in reaction time in the tail-flick test following intrathecal administration of SP at the lower thoracic spinal level (rat) 26:243
evidence for the existence of an intraspinal SP-sympathetic preganglionic neuron circuitry (white Carneaux pigeons: *Columba livia*) 26:655
immunohistochemical localization of 5-HT- and SP-containing fibres around respiratory muscle motoneurons in the nucleus ambiguus (cat) 26:169
in nodose ganglion (inferior ganglion of the vagus nerve) (rat) 26:539
in spinal and olfactory 5-HT projections (rat) 26:959
in vagal and glossopharyngeal afferent neurons (rat) 26:539
injected intrathecally at the 8th thoracic vertebral level may activate sympathetic neurons to the adrenal medulla to cause release of an opioid into the circulation (rat) 26:243
SP-like immunoreactivity in intraocular grafts of lower part of fetal (E_{15}-E_{17}) cervical spinal cord 2-3 months after grafting (rat) 26:193
transmitter role in sensory nerves of the mammalian urinary bladder? 26:233

Superior cervical ganglion (SCG),
heterogeneous distribution of GABA-immunoreactive nerve fibres and axon terminals in the SCG (rat) 26:635

Sympathetic preganglionic neurons,
intraspinal SP input to sympathetic preganglionic neuropil in pigeon: HPLC, radioimmunoassay and electron microscopic evidence (*Columba livia*) 26:655

Synaptic vesicles,
in GABAergic neurons differ in shape from those of glutamatergic neurons (*Schistocerca gregaria*, thoracic ganglion) 26:33

Synaptophysin,
immunoelectron microscopic localization in a Golgi subcompartment of developing hypothalamic neurons (culture of mouse fetus hypothalami) 26:847

Tachykinin,
  radioimmunoassay 26:233
  tachykinin-like immunoreactivity in mammalian urinary bladder: correlation with the functions of capsaicin-sensitive sensory nerves (rat, guinea-pig, mouse) 26:233
  transmitter role in sensory nerves of the mammalian urinary bladder? 26:233

Tail-flick test,
  reaction time to tail withdrawal from a noxious radiant heat source is increased by intrathecal SP at the T8 vertebral level (rat) 26:243

Tannic acid-Ringer incubation (TARI) method,
  to study structural and ionic bases of nonsynaptic neuropeptide release in CNS of *Lymnaea stagnalis* 26:327

Taurine,
  effects of strychnine on neurons in somatosensory cortex and its interaction with taurine (cat) 26:745

Thalamic connections,
  to the lateral posterior-pulvinar thalamic complex (cat) 26:449

Trigeminal mesencephalic neurons,
  relation with ADA-containing neurons (rat) 26:669

Trimethyltin (TMT),
  TMT-induced neuronal damage in the brain: comparative studies using silver degeneration stains, immunocytochemistry and immunoassay for neurotypic and gliotypic proteins (rat) 26:337

Tyrosine hydroxylase (TH),
  immunocytochemical mapping in human brain stem of MAO-A, MAO-B and TH 26:791

Urinary bladder,
  co-existence of multiple neurokinins in those bladder sensory nerves which are capsaicin-sensitive (mouse, rat, guinea-pig) 26:233
  tachykinin-LI: correlation with functions of capsaicin-sensitive nerves (mouse, rat, guinea-pig) 26:233

Vagal afferent neurons,
  immunohistochemical study of neuropeptides (rat) 26:539

Vasoactive intestinal peptide (VIP),
  in vagal and glossopharyngeal afferent neurons (rat) 26:539
  VIP-like immunoreactivity in intraocular grafts of lower part of fetal (E_{15}-E_{17}) cervical spinal cord 2-3 months after grafting (rat) 26:193

Vasopressin,
  localization of [^{3}H]vasopressin binding sites in forebrain and pituitary gland (Brattleboro and Long-Evans rats) 26:273
  localization of [^{3}H]vasopressin binding sites in forebrain and pituitary gland (Long-Evans rats) 26:261, 26:273

Visceral afferent neurons,
  neuropeptides in vagal and glossopharyngeal afferent neurons (rat) 26:539

visceral nerve fibres,
  CGRP in visceral afferent nerve fibres (rat) 26:927

Xylene,
  to induce cystitis in female rats 26:709